IN THE CLAIMS:

1-23. (Canceled)

24. (Previously presented) A method of introducing a nucleic acid encoding a desired molecule into cardiomyocytes which comprises:

infusing a recombinant adeno-associated virus (AAV) vector into a coronary artery or a coronary sinus of an animal in an amount of about 1×10^5 to about 1×10^9 infectious units (IU) AAV per gram body weight and for a time sufficient to stably and efficiently transduce cardiomyocytes perfused through said artery or said sinus, wherein said AAV vector comprises at least one nucleic acid operably linked to a control region, said nucleic acid encoding said desired molecule.

25. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 10% of said cardiomyocytes.

26. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 40% of said cardiomyocytes.

27. (Previously presented) The method of claim 24, wherein said AAV transduces at least about 50% of said cardiomyocytes.

28. (Previously presented) The method of claim 24, wherein said AAV is infused for at least about 2 minutes to about 30 minutes.

29. (Previously presented) The method of claim 24, wherein said AAV is infused for at least about 5 minutes to about 20 minutes.

30. (Previously presented) The method of claim 24, wherein said AAV is infused for about 15 minutes.

31. (Cancelled)

32. (Previously presented) The method of claim 24, wherein said amount of AAV is about 1 x 10^6 IU AAV per gram body weight to about 1 x 10^8 IU AAV per gram body weight.

33. (Previously presented) The method of claim 32, wherein said amount of AAV is about 6 x 10^7 IU AAV per gram body weight.

34. (Cancelled)

35. (Previously presented) The method of claim 28, wherein about 1 x 10^6 IU AAV per gram body weight to about 1 x 10^8 IU AAV per gram body weight is infused.

36. (Previously presented) The method of claim 35, wherein about 6 x 10^7 IU AAV per gram body weight is infused.

37. (Previously presented) The method of any one of claims 28, 35, or 36, wherein said AAV is infused for about 5 to about 20 minutes.

38. (Previously presented) The method of claim 37, wherein said AAV is infused for about 15 minutes.

39. (Previously presented) The method of claim 24, wherein about 6 x 10^7 IU AAV per gram body weight is infused for about 15 minutes.

40. (Previously presented) The method of claim 24, wherein said coronary artery is infused *ex vivo* or *in vivo*.

41. (Previously presented) The method of claim 24, wherein said desired molecule is an anti -sense RNA or a protein.

42. (Currently amended) The method of claim 24, wherein said desired molecule is an ion channel ~~gene~~ protein, a contractile protein, a phospholamban, a β adrenergic receptor, a β adrenergic kinase, a growth factor, an angiogenic factor, a protein ~~or nucleic acid~~ capable of inducing angiogenesis, or a protein ~~or nucleic acid~~ capable of inhibiting angiogenesis.

43. (Previously presented) The method of claim 24, wherein said desired molecule is FGF-1, FGF-2, FGF-5, VEGF, or HIF-1.

44. (Previously presented) The method of claim 24, wherein said desired molecule is thymidine kinase, p21, p27, p53, Rb, or NF-κB.

45. (Previously presented) The method of claim 24, wherein said cardiomyocytes are in an individual having a vascular condition selected from the group consisting of restenosis, atherosclerosis, congestive heart failure, ischemic cardiomyopathy, malignant arrhythmia, myocardial infarction, congestive heart failure, and dilated and hypertrophic cardiomyopathy.

46. (Previously presented) The method of claim 24, wherein said desired molecule has an effect selected from the group consisting of inducing angiogenesis, inhibiting angiogenesis, stimulating or inhibiting cell proliferation, treating restenosis, treating atherosclerosis, treating congestive heart failure, treating ischemic cardiomyopathy and treating malignant arrhythmia.

47. (New) The method of claim 41, wherein said an anti-sense RNA is capable of inducing angiogenesis or is capable of inhibiting angiogenesis.